



Test Report: (6823)173-0217

Report Date: July 10, 2023

Factory Company Name: Shantex (Pvt.) Limited

Factory Address: Anowar Jong Road, Gouripur, Ashulia, Savar, Dhaka, 1349, Bangladesh.

| | | | |
|--------------------------------|----------------------------|-----------|----------------------------|
| Sampling Method & Description: | I001) Untreated wastewater | Composite | Blue color liquid |
| | I002) Effluent | Composite | Light reddish color liquid |
| | I003) Sludge | Composite | Blue color wet solid |
| | I004) Leachate | - | Not tested |
| | I005) Incoming water | - | Not tested |

Discharge Type: **Direct Discharge**

On-site ETP / Pretreatment: Yes Homogenization Tank & Holding Time: Yes & More than 12 hours

Discharge Destination: Turag River

Permit Validation Date: Not Provided

Conventional, Anions & Heavy Metals Overall Category: Foundational ZDHC MRSL Parameters: Not detected

Sludge Parameters: Meet ZDHC Threshold Value

Sample Pick Up Date: June 21, 2023 Sampler Number: C74D106817480

Test Period: June 21, 2023 to July 10, 2023

Parameter(s) exceeded maximum holding time: Not exceeded

Remark

The results of this report shall not be used for any regulatory compliance purposes.

| | | | |
|--------------------------|--------------------|------------------------------------------------|-----------------------------------------------|
| Type of Process: | Textile | Average total industrial wastewater generated: | Equal or more than 15m³/day |
| Sludge Disposal Pathway: | Disposal Pathway E | | |
| Type of Sludge: | Wet-solid | | |

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BUREAU VERITAS
 CONSUMER PRODUCTS SERVICES (BANGLADESH) LTD.

Report approved by:

MR. MD. RASHEDUL HAQUE
 DEPUTY SR. MANAGER, RSL OPERATIONS

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Result Summary - ZDHC MRSL Wastewater Parameters

| Test Items | Untreated wastewater | Effluent | Incoming water |
|-----------------------------------------------|----------------------|----------|----------------|
| 1A) AP and APEOs | ND | NR | NR |
| 1B) Anti-Microbials & Biocides | ND | | NR |
| 1C) Chlorinated Parafins | ND | | NR |
| 1D) Chlorobenzenes and Chlorotoluenes | ND | | NR |
| 1E) Chlorophenols | ND | | NR |
| 1F) DMFa | ND | | NR |
| 1G) Dyes - Carcinogenic or Equivalent Concern | ND | | NR |
| 1H) Dyes - Disperse (Sensitising) | ND | | NR |
| 1I) Dyes - Navy Blue Colourant | ND | | NR |
| 1J) Flame Retardants | ND | | NR |
| 1K) Glycols / Glycol Ethers | ND | | NR |
| 1L) Halogenated Solvents | ND | | NR |
| 1M) Organotin Compounds | ND | | NR |
| 1N) Other / Miscellaneous Chemicals | ND | | NR |
| 1O) PFCs | ND | | NR |
| 1P) Phthalates | ND | | NR |
| 1Q) PAHs | ND | | NR |
| 1R) Restricted Aromatic Amines | ND | | NR |
| 1S) UV Absorbers | ND | | NR |
| 1T) VOC | ND | | NR |



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Result Summary - ZDHC Heavy Metals, Conventional and Anions Wastewater Parameters

| Test Items | Untreated wastewater | Effluent | Incoming water |
|------------------------------|----------------------|-----------------|----------------|
| Antimony | NR | Meet | NR |
| Chromium (VI) | | Meet | NR |
| Barium | | Refer to result | NR |
| Selenium | | Refer to result | NR |
| Tin | | Refer to result | NR |
| Arsenic | | Meet | NR |
| Total Chromium | | Meet | NR |
| Cobalt | | Meet | NR |
| Cadmium | | Meet | NR |
| Copper | | Meet | NR |
| Lead | | Meet | NR |
| Nickel | | Meet | NR |
| Silver | | Meet | NR |
| Zinc | | Meet | NR |
| Mercury | | Meet | NR |
| pH | | Meet | NR |
| Temperature difference | | Meet | |
| E.coli | | Meet | |
| Colour | | Meet | |
| Persistent Foam | | Meet | |
| Wastewater Flowrate | | Refer to result | |
| Ammonium-Nitrogen | | Meet | |
| AOX | | Meet | |
| BOD ₅ | | Meet | |
| COD | | Meet | |
| DO | | Refer to result | |
| Oil & Grease | | Meet | |
| Total Phenols / Phenol Index | | Meet | |
| Total Chlorine | | Refer to result | |
| TDS | | Refer to result | |
| Total Nitrogen | | Meet | |
| Total Phosphorus | | Meet | |
| TSS | | Meet | |
| Chloride | Refer to result | | |
| Cyanide, total | Meet | | |
| Sulfate | Refer to result | | |
| Sulfide | Meet | | |
| Sulfite | Meet | | |



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Result Summary - ZDHC Sludge Parameters

| Test Items | Sludge | Leachate |
|-------------------|-----------------|----------|
| Antimony | ND | NR |
| Arsenic | ND | NR |
| Barium | ND | NR |
| Cadmium | ND | NR |
| Cobalt | ND | NR |
| Copper | ND | NR |
| Lead | ND | NR |
| Nickel | ND | NR |
| Selenium | ND | NR |
| Silver | ND | NR |
| Total Chromium | ND | NR |
| Zinc | ND | NR |
| Chromium (VI) | ND | NR |
| Mercury | ND | NR |
| Cyanide | Refer to result | NR |
| pH | Refer to result | |
| % Solids | Refer to result | |
| Paint Filter Test | Refer to result | |
| Fecal Coliform | Refer to result | |
| AP and APEOs | ND | |
| PAHs | ND | |
| Chlorotoluenes | ND | |

Note / Key:

| | | |
|-----------------|---|------------------------------------------------------------------------------------------|
| Meet | = | Meet Foundational Limit / Meet Discharge Criteria |
| Not Meet | = | Exceed Foundational Limit / Exceed Discharge Criteria |
| NR | = | Not requested / Not required |
| NA | = | Not applicable |
| D | = | Detected |
| ND | = | Not detected |
| Refer to result | = | Legal parameter(s) and/or parameter(s) requested by factory, please refer to test result |



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Report Date: July 10, 2023

Test Result - ZDHC MRSL Parameters

| Test Parameters | Results of Test Items | | | | | Requirements [Textile] | | |
|---------------------------------------------------------------------------|-----------------------|----------------|------------------------------|-----------------------------|----------------|------------------------|--------------------------------|----------------------------|
| | I001 (µg/L) | I002 (µg/L) | I003 [#] (mg/kg) | I004 [#] (mg/L) | I005 (µg/L) | Wastewater (µg/L) | Sludge [#] (mg/kg) | Leachate [#] - |
| 1A) AP and APEOs: including all isomers | | | | | | | | |
| NPEO | ND | NR | ND | NR | NR | 5 | 0.4 | - |
| NP, mixed isomers | ND | | ND | | NR | | | |
| OPEO | ND | | ND | | NR | | | |
| OP, mixed isomers | ND | | ND | | NR | | | |
| 1B) Anti-Microbials & Biocides | | | | | | | | |
| o-Phenylphenol (+salts) | ND | NR | NR | NR | NR | 100 | - | - |
| Triclosan | ND | | | | NR | | | |
| Permethrin | ND | | | | NR | | | |
| 1C) Chlorinated Parafins | | | | | | | | |
| MCCPs (C14-C17) | ND | NR | NR | NR | NR | 500 | - | - |
| SCCPs (C10-C13) | ND | | | | NR | | | |
| 1D) Chlorobenzenes and Chlorotoluenes | | | | | | | | |
| 1,2-dichlorobenzene | ND | NR | NR | NR | NR | 0.2 | - | - |
| Other isomers of mono-, di-, tri-, tetra-, penta- and hexa- chlorobenzene | ND | | | | NR | | | |
| Other isomers of mono-, di-, tri-, tetra- and penta- chlorotoluene | ND | | | | ND | | | |
| 1E) Chlorophenols | | | | | | | | |
| 2-chlorophenol | ND | NR | NR | NR | NR | 0.5 | - | - |
| 3-chlorophenol | ND | | | | NR | | | |
| 4-chlorophenol | ND | | | | NR | | | |
| 2,3-dichlorophenol | ND | | | | NR | | | |
| 2,4-dichlorophenol | ND | | | | NR | | | |
| 2,5-dichlorophenol | ND | | | | NR | | | |
| 2,6-dichlorophenol | ND | | | | NR | | | |
| 3,4-dichlorophenol | ND | | | | NR | | | |
| 3,5-dichlorophenol | ND | | | | NR | | | |
| 2,3,4-trichlorophenol | ND | | | | NR | | | |
| 2,3,5-trichlorophenol | ND | | | | NR | | | |
| 2,3,6-trichlorophenol | ND | | | | NR | | | |
| 2,4,5-trichlorophenol | ND | | | | NR | | | |
| 2,4,6-trichlorophenol | ND | | | | NR | | | |
| 3,4,5-trichlorophenol | ND | | | | NR | | | |
| 2,3,5,6-tetrachlorophenol | ND | | | | NR | | | |
| 2,3,4,6-tetrachlorophenol | ND | | | | NR | | | |
| 2,3,4,5-tetrachlorophenol | ND | | | | NR | | | |
| Pentachlorophenol (PCP) | ND | | | | NR | | | |
| 1F) N,N-di-methylformamide (DMFa) | | | | | | | | |
| Dimethyl formamide; | ND | NR | NR | NR | NR | 1000 | - | - |
| N,N-dimethylformamide (DMFa) ^a | ND | | | | | | | |

a = Report only for mock leather

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



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Report Date: July 10, 2023

Test Result - ZDHC MRSL Parameters (continued)

| Test Parameters | Results of Test Items | | | | | Requirements [Textile] | | |
|------------------------------------------------------|-----------------------|--------|-------------------|-------------------|--------|------------------------|---------------------|-----------------------|
| | I001 | I002 | I003 [#] | I004 [#] | I005 | Wastewater | Sludge [#] | Leachate [#] |
| | (µg/L) | (µg/L) | (mg/kg) | (mg/L) | (µg/L) | (µg/L) | (mg/kg) | - |
| 1G) Dyes - Carcinogenic or Equivalent Concern | | | | | | | | |
| Basic violet 3 with >0.1% of Michler's Ketone | ND | | | | NR | | | |
| C.I. Acid Red 26 | ND | | | | NR | | | |
| C.I. Acid Violet 49 | ND | | | | NR | | | |
| C.I. Basic Blue 26 (with Michler's Ketone >0/1%) | ND | | | | NR | | | |
| C.I. Basic Green 4 (Malachite Green Chloride) | ND | | | | NR | | | |
| C.I. Basic Green 4 (Malachite Green Oxalate) | ND | | | | NR | | | |
| C.I. Basic Green 4 (Malachite Green) | ND | | | | NR | | | |
| C.I. Basic Red 9 | ND | NR | NR | NR | NR | 500 | - | - |
| C.I. Basic Violet 14 | ND | | | | NR | | | |
| C.I. Direct Black 38 | ND | | | | NR | | | |
| C.I. Direct Blue 6 | ND | | | | NR | | | |
| C.I. Direct Red 28 | ND | | | | NR | | | |
| C.I. Disperse Blue 1 | ND | | | | NR | | | |
| C.I. Disperse Blue 3 | ND | | | | NR | | | |
| Disperse Orange 11 | ND | | | | NR | | | |
| 1H) Dyes - Disperse (Allergenic) | | | | | | | | |
| Disperse Blue 102 | ND | | | | NR | | | |
| Disperse Blue 106 | ND | | | | NR | | | |
| Disperse Blue 124 | ND | | | | NR | | | |
| Disperse Blue 26 | ND | | | | NR | | | |
| Disperse Blue 35 (CAS 12222-75-2) | ND | | | | NR | | | |
| Disperse Blue 35 (CAS 56524-77-7) | ND | | | | NR | | | |
| Disperse Blue 7 | ND | | | | NR | | | |
| Disperse Brown 1 | ND | | | | NR | | | |
| Disperse Orange 1 | ND | | | | NR | | | |
| Disperse Orange 3 | ND | NR | NR | NR | NR | 50 | - | - |
| Disperse Orange 37/59/76 | ND | | | | NR | | | |
| Disperse Red 1 | ND | | | | NR | | | |
| Disperse Red 11 | ND | | | | NR | | | |
| Disperse Red 17 | ND | | | | NR | | | |
| Disperse Yellow 1 | ND | | | | NR | | | |
| Disperse Yellow 3 | ND | | | | NR | | | |
| Disperse Yellow 39 | ND | | | | NR | | | |
| Disperse Yellow 49 | ND | | | | NR | | | |
| Disperse Yellow 9 | ND | | | | NR | | | |
| 1I) Dyes - Navy Blue Colourant | | | | | | | | |
| Component 1: C39H23Cl-CrN7O12S 2Na | ND | NR | NR | NR | NR | 500 | - | - |
| Component 2: C46H30CrN10O20S2 3Na | ND | | | | NR | | | |

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



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Test Result - ZDHC MRSL Parameters (continued)

| Test Parameters | Results of Test Items | | | | | Requirements [Textile] | | |
|------------------------------------------------------|-----------------------|----------------|------------------------------|-----------------------------|----------------|------------------------|--------------------------------|----------------------------|
| | I001 (µg/L) | I002 (µg/L) | I003 [#] (mg/kg) | I004 [#] (mg/L) | I005 (µg/L) | Wastewater (µg/L) | Sludge [#] (mg/kg) | Leachate [#] - |
| 1J) Flame Retardants | | | | | | | | |
| 2,2-bis(bromomethyl)-1,3-propanediol (BBMP) | ND | | | | NR | | | |
| Dis(2,3-dibromopropyl) phosphate (BIS) | ND | | | | NR | | | |
| Decabromophenyl ether (DecaBDE) | ND | | | | NR | | | |
| Hexabromocyclodecane (HBCDD) | ND | | | | NR | | | |
| Octabromodiphenyl ether (OctaBDE) | ND | | | | NR | | | |
| Pentabromodiphenyl ether (PentaBDE) | ND | | | | NR | | | |
| Polybromobiphenyls (PBB) | ND | | | | NR | | | |
| Tetrabromobisphenol A (TBBPA) | ND | | | | NR | | | |
| Tris-(2-chloro-1-methylethyl) phosphate (TCPP) | ND | | | | NR | | | |
| Tris(1-aziridinyl)phosphone oxide (TEPA) | ND | | | | NR | | | |
| Tris(1,3-dichloro-isopropyl) phosphate (TDCP) | ND | | | | NR | | | |
| Tris(2-chloroethyl) phosphate (TCEP) | ND | | | | NR | | | |
| Tris(2,3-dibromopropyl) phosphate (TRIS) | ND | | | | NR | 25 | | |
| Decabromobiphenyl (DecaBB) | ND | | | | NR | | | |
| Dibromobiphenyls (DiBB) | ND | NR | NR | NR | NR | | | |
| Octabromobiphenyls (OctaBB) | ND | | | | NR | | | |
| Dibromopropylether | ND | | | | NR | | | |
| Heptabromodiphenyl ether (HeptaBDE) | ND | | | | NR | | | |
| Hexabromodiphenyl ether (HexaBDE) | ND | | | | NR | | | |
| Monobromobiphenyls (MonoBB) | ND | | | | NR | | | |
| Monobromodiphenylethers (MonoBDEs) | ND | | | | NR | | | |
| Nonabromobiphenyls (NonaBB) | ND | | | | NR | | | |
| Nonabromodiphenyl ether (NonaBDE) | ND | | | | NR | | | |
| Tetrabromodiphenyl ether (TetraBDE) | ND | | | | NR | | | |
| Tribromophenylethers (TriBDEs) | ND | | | | NR | | | |
| Boric acid ^b | ND | | | | NR | | | |
| Diboron trioxide ^b | ND | | | | NR | | | |
| Disodium octaborate ^b | ND | | | | NR | 100 | | |
| Disodium tetraborate anhydrous ^b | ND | | | | NR | | | |
| Tetraboron disodium heptaoxide, hydrate ^b | ND | | | | NR | | | |
| 1K) Glycols / Glycol Ethers | | | | | | | | |
| 2-ethoxyethanol | ND | | | | NR | | | |
| 2-ethoxyethyl acetate | ND | | | | NR | | | |
| 2-methoxyethanol | ND | | | | NR | | | |
| 2-methoxyethylacetate | ND | NR | NR | NR | NR | 50 | - | - |
| 2-methoxypropylacetate | ND | | | | NR | | | |
| Bis(2-methoxyethyl)-ether | ND | | | | NR | | | |
| Ethylene glycol dimethyl ether | ND | | | | NR | | | |
| Triethylene glycol dimethyl ether | ND | | | | NR | | | |
| 1L) Halogenated Solvents | | | | | | | | |
| 1,2-dichloroethane | ND | | | | NR | | | |
| Methylene chloride | ND | NR | NR | NR | NR | 1 | - | - |
| Tetrachloroethylene | ND | | | | NR | | | |
| Trichloroethylene | ND | | | | NR | | | |

b = Limit refers to elemental boron, not the salt.

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



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Test Result - ZDHC MRSL Parameters (continued)

| Test Parameters | Results of Test Items | | | | | Requirements [Textile] | | | | | |
|----------------------------------------------------------------------------------------|-----------------------|----------------|------------------------------|-----------------------------|----------------|------------------------|--------------------------------|----------------------------|-----|---|---|
| | I001 (µg/L) | I002 (µg/L) | I003 [#] (mg/kg) | I004 [#] (mg/L) | I005 (µg/L) | Wastewater (µg/L) | Sludge [#] (mg/kg) | Leachate [#] - | | | |
| 1M) Organotin Compounds | | | | | | | | | | | |
| Dipropyltin compounds (DPT) | ND | | | | NR | 0.01 | - | - | | | |
| Mono, di-, and tri-butyltin derivatives | ND | | | | NR | | | | | | |
| Mono, di-, and tri-methyltin derivatives | ND | | | | NR | | | | | | |
| Mono, di-, and tri-octyltin derivatives | ND | | | | NR | | | | | | |
| Mono, di-, and tri-phenyltin derivatives | ND | NR | NR | NR | NR | | | | | | |
| Tetrabutyltin compounds (TeBT) | ND | | | | NR | | | | | | |
| Tripropyltin compounds (TPT) | ND | | | | NR | | | | | | |
| Tetraoctyltin compounds (TeOT) | ND | | | | NR | | | | | | |
| Tricyclohexyltin (TCyHT) | ND | | | | NR | | | | | | |
| Tetraethyltin compounds (TeET) | ND | | | | NR | | | | | | |
| 1N) Other / Miscellaneous Chemicals | | | | | | | | | | | |
| AEEA [2-(2-aminoethylamino)ethanol] | ND | | | | NR | | | | 500 | - | - |
| Bisphenol A | ND | | | | NR | 10 | | | | | |
| Thiourea | ND | NR | NR | NR | NR | 50 | | | | | |
| Quinoline | ND | | | | NR | | | | | | |
| Borate, zinc salt ^c | ND | | | | NR | 100 | | | | | |
| Silica (used in sand blasting) ^d | NR | | | | NR | - | | | | | |
| 1O) Perfluorinated and Polyfluorinated Chemicals (PFCs) | | | | | | | | | | | |
| Perfluorooctane sulfonate (PFOS) and related substances, Perfluorooctanoic acid (PFOA) | ND | NR | NR | NR | NR | 0.01 | - | - | | | |
| Perfluorooctanoic acid (PFOA) related substances | ND | | | | NR | 1 | | | | | |
| 1P) Phthalates - including all other esters of ortho-phthalic acid | | | | | | | | | | | |
| 1,2-benzenedicarboxylic acid, di-C6-8 branched and linear alkyl esters, C7-rich (DIHP) | ND | | | | NR | 10 | - | - | | | |
| 1,2-benzenedicarboxylic acid, di-C7-11 branched and linear alkyl esters (DHNUF) | ND | | | | NR | | | | | | |
| Bis(2-methoxyethyl)phthalate (DMEP) | ND | | | | NR | | | | | | |
| Butyl benzyl phthalate (BBP) | ND | | | | NR | | | | | | |
| Di-cyclohexyl phthalate (DCHP) | ND | | | | NR | | | | | | |
| Di-iso-decyl phthalate (DIDP) | ND | | | | NR | | | | | | |
| Di-iso-octyl phthalate (DIOP) | ND | | | | NR | | | | | | |
| Di-iso-butyl phthalate (DIBP) | ND | NR | NR | NR | NR | | | | | | |
| Di-iso-nonyl phthalate (DINP) | ND | | | | NR | | | | | | |
| Di-n-hexyl phthalate (DnHP) | ND | | | | NR | | | | | | |
| Di-n-octyl phthalate (DNOP) | ND | | | | NR | | | | | | |
| Di-n-pentylphthalates | ND | | | | NR | | | | | | |
| Di-n-propyl phthalate (DPRP) | ND | | | | NR | | | | | | |
| Di(ethylhexyl) phthalate (DEHP) | ND | | | | NR | | | | | | |
| Dibutyl phthalate (DBP) | ND | | | | NR | | | | | | |
| Diethyl phthalate (DEP) | ND | | | | NR | | | | | | |
| Diisopentylphthalates | ND | | | | NR | | | | | | |
| Dinonyl phthalate (DNP) | ND | | | | NR | | | | | | |

c = Limit refers to elemental boron and/or zinc, not the salt.

d = Not a ZDHC wastewater parameter, and not required to test this parameter as this is related to sand blasting

[#]Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



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Test Result - ZDHC MRSL Parameters (continued)

| Test Parameters | Results of Test Items | | | | | Requirements [Textile] | | |
|------------------------------------------------------------------------|-----------------------|----------------|------------------------------|-----------------------------|----------------|------------------------|--------------------------------|----------------------------|
| | I001 (µg/L) | I002 (µg/L) | I003 [#] (mg/kg) | I004 [#] (mg/L) | I005 (µg/L) | Wastewater (µg/L) | Sludge [#] (mg/kg) | Leachate [#] - |
| 1Q) Polycyclic Aromatic Hydrocarbons (PAHs) | | | | | | | | |
| Acenaphthene | ND | | ND | | NR | | | |
| Acenaphthylene | ND | | ND | | NR | | | |
| Anthracene | ND | | ND | | NR | | | |
| Benzo[a]anthracene | ND | | ND | | NR | | | |
| Benzo[a]pyrene (BaP) | ND | | ND | | NR | | | |
| Benzo[b]fluoranthene | ND | | ND | | NR | | | |
| Benzo[e]pyrene | ND | | ND | | NR | | | |
| Benzo[ghi]perylene | ND | | ND | | NR | | | |
| Benzo[j]fluoranthene | ND | NR | ND | NR | NR | 1 | 0.2 | - |
| Benzo[k]fluoranthene | ND | | ND | | NR | | | |
| Chrysene | ND | | ND | | NR | | | |
| Dibenz[a,h]anthracene | ND | | ND | | NR | | | |
| Fluoranthene | ND | | ND | | NR | | | |
| Fluorene | ND | | ND | | NR | | | |
| Indeno[1,2,3-cd]pyrene | ND | | ND | | NR | | | |
| Naphthalene | ND | | ND | | NR | | | |
| Phenanthrene | ND | | ND | | NR | | | |
| Pyrene | ND | | ND | | NR | | | |
| 1R) Restricted Aromatic Amines (Cleavable from Azo-colourants) | | | | | | | | |
| 2-naphthylamine | ND | | | | NR | | | |
| 2-naphthylammoniumacetate | ND | | | | NR | | | |
| 2,4-xylidine | ND | | | | NR | | | |
| 2,4,5-trimethylaniline | ND | | | | NR | | | |
| 2,4,5-trimethylaniline hydrochloride | ND | | | | NR | | | |
| 2,6-xylidine | ND | | | | NR | | | |
| 3,3'-dichlorobenzidine | ND | | | | NR | | | |
| 3,3-dimethoxybenzidine | ND | | | | NR | | | |
| 3,3-dimethylbenzidine | ND | | | | NR | | | |
| 4-aminoazobenzene | ND | | | | NR | | | |
| 4-aminodiphenyl | ND | | | | NR | | | |
| 4-chloro-o-toluidine | ND | | | | NR | | | |
| 4-chloro-o-toluidinium chloride | ND | | | | NR | | | |
| 4-chloroaniline | ND | | | | NR | | | |
| 4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate | ND | NR | NR | NR | NR | 0.1 | - | - |
| 4-methoxy-m-phenylenediamine | ND | | | | NR | | | |
| 4-methyl-m-phenylenediamine | ND | | | | NR | | | |
| 4,4-methylene-bis-(2-chloro-aniline) | ND | | | | NR | | | |
| 4,4-methylenedi-o-toluidine | ND | | | | NR | | | |
| 4,4-methylenedianiline | ND | | | | NR | | | |
| 4,4-oxydianiline | ND | | | | NR | | | |
| 4,4-thiodianiline | ND | | | | NR | | | |
| 5-nitro-o-toluidine | ND | | | | NR | | | |
| 6-methoxy-m-toluidine | ND | | | | NR | | | |
| Benzidine | ND | | | | NR | | | |
| o-aminoazotoluene | ND | | | | NR | | | |
| o-anisidine | ND | | | | NR | | | |
| o-toluidine | ND | | | | NR | | | |

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (6823)173-0217

Report Date: July 10, 2023

Test Result - ZDHC MRSL Parameters (continued)

| Test Parameters | Results of Test Items | | | | | Requirements [Textile] | | |
|-----------------------------------------------------------------------|-----------------------|----------------|------------------------------|-----------------------------|----------------|------------------------|--------------------------------|----------------------------|
| | I001 (µg/L) | I002 (µg/L) | I003 [#] (mg/kg) | I004 [#] (mg/L) | I005 (µg/L) | Wastewater (µg/L) | Sludge [#] (mg/kg) | Leachate [#] - |
| 1S) UV Absorbers | | | | | | | | |
| 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350) | ND | NR | NR | NR | NR | 100 | - | - |
| 2-(2H-benzotriazol-2-yl)-4,6- ditertpentylphenol (UV-328) | ND | | | | NR | | | |
| 2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320) | ND | | | | NR | | | |
| 2,4-Di-tert-butyl-6-(5- chlorobenzotriazole-2-yl) phenol (UV-327) | ND | | | | NR | | | |
| 1T) Volatile Organic Compounds (VOC) | | | | | | | | |
| Benzene | ND | NR | NR | NR | NR | 1 | - | - |
| m-cresol | ND | | | | NR | | | |
| o-cresol | ND | | | | NR | | | |
| p-cresol | ND | | | | NR | | | |
| Xylene | ND | | | | NR | | | |
| Toluene ^a | ND | | | | NR | | | |

a = Report only for mock leather

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (6823)173-0217

Report Date: July 10, 2023

Test Result - ZDHC Heavy Metals Parameters

| Test Parameters | Unit | | | Results of Test Items | | | | | Requirements [Textile] | | | | |
|--------------------------|------------|--------|----------|-----------------------|-------|-------|-------|------|------------------------|-------------|--------------|-----------------|-------------------------|
| | Wastewater | Sludge | Leachate | I001 | I002 | I003# | I004# | I005 | Wastewater | | | Sludge | |
| | | | | | | | | | Foundational | Progressive | Aspirational | Discharge Limit | Sludge Threshold Values |
| ZDHC Heavy Metals | | | | | | | | | | | | | |
| Antimony | mg/L | mg/kg | mg/L | NR | ND | ND | NR | NR | 0.1 | 0.05 | 0.01 | - | 12 |
| Chromium (VI) | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.05 | 0.005 | 0.001 | - | 50 |
| Barium | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | Sample & Report | | | - | 700 |
| Selenium | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | Sample & Report | | | - | 10 |
| Tin | mg/L | - | - | | ND | NR | NR | NR | Sample & Report | | | - | - |
| Arsenic | mg/L | mg/kg | mg/L | | 0.007 | ND | NR | NR | 0.05 | 0.01 | 0.005 | - | 10 |
| Total Chromium | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.2 | 0.1 | 0.05 | 0.5 | 100 |
| Cobalt | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.05 | 0.02 | 0.01 | 0.5 | 1600 |
| Cadmium | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.1 | 0.05 | 0.01 | 0.02 | 3 |
| Copper | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 1 | 0.5 | 0.25 | - | 200 |
| Lead | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.1 | 0.05 | 0.01 | 0.1 | 10 |
| Nickel | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.2 | 0.1 | 0.05 | 1 | 70 |
| Silver | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.1 | 0.05 | 0.005 | - | 100 |
| Zinc | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 5 | 1 | 0.5 | - | 1000 |
| Mercury | mg/L | mg/kg | mg/L | | ND | ND | NR | NR | 0.01 | 0.005 | 0.001 | - | 1 |

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Report Date: July 10, 2023

Test Result - ZDHC Conventional and Anions Parameters

| Test Parameters | Unit | | | Results of Test Items | | | | | Requirements [Textile] | | | | |
|------------------------------|---------------------|--------|----------|-----------------------|----------|-------|-------|------|------------------------|----------------------------------|--------------|-----------------|-------------------------|
| | Wastewater | Sludge | Leachate | I001 | I002 | I003# | I004# | I005 | Wastewater | | | Sludge | |
| | | | | | | | | | Foundational | Progressive | Aspirational | Discharge Limit | Sludge Threshold Values |
| ZDHC Conventional | | | | | | | | | | | | | |
| pH | pH | - | - | - | 7.3 | 8 | - | - | - | 6 - 9 | 6-9 | - | - |
| Tempature difference | Δ °C | - | - | - | 3.2 | - | - | - | - | 15 | 10 | 5 | ≤5 |
| E.coli | MPN/100-ml | - | - | - | ND | - | - | - | - | 126 | | | - |
| Colour (436 nm) | m ⁻¹ | - | - | - | 6.9 | - | - | - | - | 7 | 5 | 2 | - |
| Colour (525 nm) | m ⁻¹ | - | - | - | 4.6 | - | - | - | - | 5 | 3 | 1 | - |
| Colour (620 nm) | m ⁻¹ | - | - | - | 2.6 | - | - | - | - | 3 | 2 | 1 | - |
| Persistent Foam | - | - | - | - | Absent | - | - | - | - | No indication of Persistent Foam | | | - |
| Wastewater Flowrate | m ³ /day | - | - | - | 1,154.33 | - | - | - | - | - | - | - | - |
| Ammonium-Nitrogen | mg/L | - | - | - | ND | - | - | - | - | 10 | 1 | 0.5 | - |
| AOX | mg/L | - | - | - | 0.81 | - | - | - | - | 3 | 0.5 | 0.1 | - |
| BOD ₅ | mg/L | - | - | - | 17 | NR | - | - | - | 30 | 15 | 8 | 30 |
| COD | mg/L | - | - | - | ND | - | - | - | - | 150 | 80 | 40 | 200 |
| DO | mg/L | - | - | NR | 6.4 | - | - | NR | NR | Sample & Report | | | - |
| Oil & Grease | mg/L | - | - | - | 1.2 | - | - | - | - | 10 | 2 | 0.5 | 10 |
| Total Phenols / Phenol Index | mg/L | - | - | - | 0.001 | - | - | - | - | 0.5 | 0.01 | 0.001 | 1 |
| Total Chlorine | mg/L | - | - | - | 0.21 | - | - | - | - | Sample & Report | | | - |
| TDS | mg/L | - | - | - | 1638 | - | - | - | - | Sample & Report | | | 2100 |
| Total Nitrogen | mg/L | - | - | - | 13.19 | - | - | - | - | 20 | 10 | 5 | - |
| Total Phosphorus | mg/L | - | - | - | 0.26 | - | - | - | - | 3 | 0.5 | 0.1 | - |
| TSS | mg/L | - | - | - | 11 | - | - | - | - | 50 | 15 | 5 | 100 |
| % Solids | - | % | - | - | - | 18.33 | - | - | - | - | - | - | - |
| Paint Filter Test | - | - | - | - | NR | Pass | - | - | - | - | - | - | - |
| Fecal Coliform | - | MPN/g | - | - | - | 1000 | - | - | - | - | - | - | - |
| ZDHC Anions | | | | | | | | | | | | | |
| Chloride | mg/L | - | - | - | 334.89 | NR | - | - | - | Sample & Report | | | - |
| Cyanide, total | mg/L | mg/kg | - | - | ND | ND | - | - | - | 0.2 | 0.1 | 0.05 | - |
| Sulfate | mg/L | - | - | NR | 183.51 | - | NR | NR | - | Sample & Report | | | - |
| Sulfide | mg/L | - | - | - | 0.2 | NR | - | - | - | 0.5 | 0.05 | 0.01 | 2 |
| Sulfite | mg/L | - | - | - | 1.5 | - | - | - | - | 2 | 0.5 | 0.2 | - |

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix A - Discharge limit according to regulation: Environment Protection Rules 2023 For Dyeing / Washing and Printing [Schedule 5 (2)]

| SI No. | Test Parameters | unit | Limitation Value of Legal Requirements (ECR) |
|--------|------------------------|-------|----------------------------------------------|
| 1 | Temperature | °C | ≤5 |
| 2 | TSS | mg/L | 100 |
| 3 | COD | mg/L | 200 |
| 4 | pH | Range | 6-9 |
| 5 | Color | Pt-Co | 150 |
| 6 | BOD5 | mg/L | 30 |
| 7 | Oil and Grease | mg/L | 10 |
| 8 | Phenol / Phenol Index | mg/L | 1 |
| 9 | Sulfide | mg/L | 2 |
| 10 | Total Dissolved Solids | mg/L | 2100 |
| 11 | Chromium, total | mg/L | 0.5 |
| 12 | Cobalt | mg/L | 0.5 |
| 13 | Nickel | mg/L | 1 |
| 14 | Cadmium | mg/L | 0.02 |
| 15 | Lead | mg/L | 0.1 |



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix B - Sample Photos

I001) Sampling point

N 24° 18' 49.32"; E 89° 36' 32.04"



I001) Sampling location surrounding

N 24° 18' 49.32"; E 89° 36' 32.04"



I001) Labelled sample bottles



I001) Sample for phthalate test



I001) Sample packaging



I002) Sampling point

N 24° 18' 49.32"; E 89° 36' 32.04"



I002) Sampling location surrounding

N 24° 18' 49.32"; E 89° 36' 32.04"



I002) Labelled sample bottles



I002) pH measurement



I002) Sample packaging





Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix B - Sample Photos (continued)

I003) Sampling point

N 24° 18' 49.32"; E 89° 36' 32.04"



I003) Sampling location surrounding

N 24° 18' 49.32"; E 89° 36' 32.04"



I003) Labelled sample bottles



I003) Sample packaging





Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet

| FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | | CPSD-AN-00613-DATA 04 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------|
| General Data Laboratory Sample Number: Client Name: <u>(6823) 173-0217</u> Field Contact Person: Project (Facility Name and Address): Sample Identification: Sample Type: Discharge mode: Date of collection: Factory Type: | | Issue Date: Version No.: 18 Business Line: Analytical |
| M. Mozam Hosen Phone No: 01716-8130423 Shantan (BVT) H.A. Anwar Zang Road, Courtipur Ashulia, Savar, Dhaka. Composite Sample / Grab Sample (Please delete as appropriate) <u>There is a hose connection to the sewer</u> Direct discharge to environment (Specify destination: River, Sea, Stream...) OR indirect discharge to sewage treatment plant <u>and its average inflow</u> <u>12.06.23</u> Pumping / Printing / Washing / Finishing / Others (please specify): <u>None</u> *Note: It would be selected more than one | | |
| Sampling Collection Information Sampling Location / Description: Sampling Device Description/ Owner: Sampling mode: Sampler Information: Sampler Name/ Email: Sampler ZDHC Accredited no.: ZDHC Composite Sample Code: | | <u>EIP: Inlet</u> <u>Autosampler Maypat</u> <u>Asfaqur Rahman</u> <u>CZ9D10-6917480</u> |

| Field Data for Wastewater | | | | |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------|-------------------------------------|
| Arrival Time: | 12.10 | Departure Time: | 19.30 | |
| Field Parameters | pH: <u>10.5</u> | Temp: <u>51.2</u> | Color: <u>Blue</u> | Flow rate: <u>15.2</u> (volume/min) |
| Control No. of field equipment | | | | |
| Factory with effluent treatment plant: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| Sample matrix: | <input checked="" type="checkbox"/> Incoming water (if required) <input checked="" type="checkbox"/> Wastewater before treatment <input type="checkbox"/> Wastewater after treatment - water at discharge point | | | |
| Sampler container number | 12 | 12 | 12 | 12 |

| ZDHC Wastewater Flow Device Dimensions | | | | |
|----------------------------------------|-------|----------|-----------|----------|
| Measurement (cm) | Meter | Pipe (O) | Flume (U) | Wier (V) |
| Diameter | NA | NA | NA | NA |
| Depth | NA | NA | NA | NA |

| ZDHC Wastewater Sampling Field Testing QA/QC | | | |
|----------------------------------------------|---------------------------------------|--------------|------------|
| Parameter | Laboratory control sample (LCS) Known | LCS Measured | Accuracy % |
| pH | | | |
| Total Chlorine | | | |

| ZDHC Wastewater Sample Collection Field Test Measurements | | | | | | | | | |
|-----------------------------------------------------------|----------------------------|---|---|---|---|---|---|---|--------------------------------|
| Recording time | Sampling Time (Hours) | | | | | | | | Average (Report with lab data) |
| | ID | 0 | 1 | 2 | 3 | 4 | 5 | 8 | |
| Temp (°C): | Time: 12.30 | | | | | | | | |
| | Wastewater Discharge: 51.2 | | | | | | | | |
| | Receiving Water: - | | | | | | | | |
| pH: | 10.5 | | | | | | | | |
| Dissolved Oxygen (mg/L): | - | | | | | | | | |
| Total Chlorine (mg/L): | - | | | | | | | | |
| Persistent Foam (Yes/No): | - | | | | | | | | |
| Wastewater Flow meter (L/min): | 45.2 | | | | | | | | |
| Alternate measured Flow | Depth (cm): | - | | | | | | | |
| | Velocity (cm/sec): | - | | | | | | | |
| Color (visual estimation): | Blue | | | | | | | | |
| Volume collected, mL: | 12 x 1000 | | | | | | | | |
| Total volume collected: | 1250 | | | | | | | | |

ID-AN-00613-DATA 04-FIELD DATA RECORD ZDHC SAMPLING-V18



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet (continued)

| | | |
|--|----------------------------------------------------------------------------------------|----------------------------------------------|
| | FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | CPD-AN-00613-DATA 04 |
| | | Issue Date: |
| | | Version No.: 18 Business Line: Analytical |

Analysis Required and Preservation Method

| Tests (ZDHC MRSL Parameters) | Test required (v) | Total of sample size | Type of container | Preservation method (Store sample at 2-8°C) | | |
|---------------------------------------------|----------------------------------------|----------------------|---------------------------------------|---------------------------------------------|-----------------------------------------|------------------------------------------------------------------|
| Combined test or Individual test (Remark 4) | 1. Phthalate | ✓ | Amber Glass, washed with nitric acid, | Without adding acid | | |
| | 2. Chlorobenzenes, Chlorotoluene & PAH | ✓ | | | | |
| | 3. SCCPs | ✓ | | | | |
| | 4. APS | ✓ | | | | |
| 5. APEOs | ✓ | 100 mL | | | | |
| 6. Chlorophenols & Cresols | ✓ | 100 mL | | | | |
| 7. Flame retardant | ✓ | 500 mL | | | | |
| 8. Dyes | ✓ | 10 mL | | | | |
| 9. Glycol | ✓ | 50 mL | | | | |
| 10. *Pesticides | ✓ | 1000 mL | | | | |
| 11. *Nitrosamine | ✗ | 10 mL | | | | |
| 12. Banned Azodyes | ✓ | 2000 mL | | | | |
| 13. *Free primary aromatic amines | ✓ | 500 mL | | | | |
| 14. Organotin Compounds | ✗ | 500 mL | | | | |
| 15. UV absorbers | ✓ | 100 | | | | |
| 16. BPA | ✓ | 2 | | | | |
| 17. Preservatives | ✓ | 52 | | | | |
| 18. VOC & Halogenated Solvents (Remark 6) | ✓ | 10 mL | | | PE, washed with pesticide grade Acetone | Fill to full container without air gap; acidify to pH 2 with HCl |
| 19. PFCs (Remark 6) | ✓ | 2 mL | | | PE, washed with pesticide grade Acetone | Without adding acid |


| Tests (Conventional Parameters) | Test required (v) | Total of sample size | Type of container | Preservation method (Store sample at 2-8°C) |
|------------------------------------------------------------------------|----------------------------------|-------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Combined test or Individual test (Remark 4) | 20. Total suspended solids (TSS) | 2000 mL total or 2000 mL each | Amber Glass, washed with nitric acid, | Without adding acid |
| | 21. Total dissolved solids (TDS) | | | |
| 22. 5-day Biochemical Oxygen Demand (BOD5) | | 1000 mL | | |
| 23. Colour | | 100 mL | | |
| 24. Heavy Metals except Cr(VI) & Total-P (Remark 6) | | 9 mL | PE, washed with nitric acid | Acidify to pH 2 with HNO ₃ |
| 25. Cyanide | | 500 mL | Amber Glass, washed with pesticide grade acetone | Adjust pH 12 with 30% NaOH, add 0.05 ml of 10% Na ₂ S ₂ O ₅ |
| 26. Cr(VI) | | 95 mL | Amber Glass, washed with nitric acid | Filter by 0.45µm filter in field, fill to full container without air gap; adjust pH to 9.0-9.5 by adding ammonium buffer |
| 27. Chemical oxygen demand (COD) | | 150 mL | | |
| 28. Phenols | | 500 mL | | |
| 29. Oil and Grease & Total Hydrocarbon | | 1000 mL | | |
| 30. *Formaldehyde | | 25 mL | | Acidify to pH 2 with H ₂ SO ₄ |
| 31. Sulfide (Remark 5) | | 50 mL | PE, washed with pesticide grade Acetone; | Fill to full container without air gap; acidify to pH 2 with H ₂ SO ₄ |
| 32. E.coli (Remark 6) | | 125 mL | PE, clean, sterile, non-reactive | Fill to full container without air gap; add 2 drops of 2M zinc acetate; adjust pH to 9 with 0M NaOH |
| 33. Sulfite | | 100 mL | Amber Glass, washed with pesticide grade acetone | Add 0.1 ml of 10% Na ₂ SO ₃ ; keep in dark |
| 34. Total-N | | 100 mL | | Add 1 mL of 2.5% EDTA |
| 35. Ammonium-N | | 500 mL | | Acidify to pH 2 with H ₂ SO ₄ |
| 36. Adsorbable organically bound halogens (AOX) | | 100 mL | | Acidify to pH 2 with HNO ₃ |
| 37. Acute aquatic toxicity: Luminus Bacteria; Fish Egg; Daphne; Algae; | | 1000 mL | Amber Glass, washed with nitric acid; | |
| 38. Sulphate | | 100 mL | | Without adding acid |



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet (continued)

| | | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------|---------------------------|--|
|  | FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | | CPSD-AN-00613-DATA 04 | |
| | | | Issue Date: | |
| | | | Version No.: 18 | |
| | | | Business Line: Analytical | |
| 38 Chloride | | 100 mL | | |
| 40 Others: | | | | |
| Observation/ Remark: | | | | |

***Remarks:**

- Individual sampling can be performed upon request.
- The minimum sampling time for 2019 ZDHC guideline is 6 hours with no more than one hour between discrete samples. Sampling time could be adjusted upon request.
- Scope of ZDHC guideline: Parameter 1-9, 12, 14-23, 31-38, 38, 39
 Scope of synthetic leather industry: Parameter 1-9, 12, 14-24, 25-29, 31, 32, 34, 35, 38, 39
 Scope of MMCF: Parameter 5, 18, 20, 22-24, 26-29, 31, 34-37
 Free primary aromatic amine, pesticides, nitrosamine and formaldehyde are not in the scope of ZDHC Guideline, they are tested upon request.
- Refer to CPSD-AN-000019-STIP01, locations with those CPSD test capability inside TCD matrix can perform the combined test.
- Refer to CPSD-AN-000570-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested.
- Refer to CPSD-AN-00613-MTHD for preparation of field blank for specific parameters.

Recorded by: AST Asfaqur Rahman
 Full name:

Date: 21.06.23

Comment from factory

Acknowledgement by factory

I hereby confirmed that Bureau Veritas has completed the stated sampling activity at captioned date, time and location. All sample(s) is/are collected in designated container(s) and without any observation in leakage. Sample(s) collected by Bureau Veritas is/are stored in portable freezer / fridge that is maintained in 1-6°C

Signature: Md. Tozom Hosen
 Signatory of Factory Representative: Full Name:

Date: 21.06.2023



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet (continued)

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| | FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | CPSP-AN-00613-DATA 04 Issue Date: _____ Version No.: 18 Business Line: Analytical |
| | General Data Laboratory Sample Number: <u>(6823) 173-0217</u> Client Name: _____ Field Contact Person: <u>Mr. Tozom Hosen</u> Phone No: <u>5712320923</u> Project (Facility Name and Address): <u>Shanta (Pvt) Ltd. Anowad, 10mg road, Gouripur, Ashura</u> Sample Identification: <u>Zero discharge with sampling plan Savar DNK</u> Sample Type: _____ Discharge mode: _____ Date of collection: <u>21.06.23</u> Factory Type: _____ *Note: It would be selected more than one | |
| Sampling Collection Information Sampling Location / Description: <u>ETP- outlet</u> Sampling Device Description/ Owner: _____ Sampling mode: <u>Autosampler Magnet</u> | | |
| Sampler Information Sampler Name/ Email: <u>Asifaus Rahman</u> Sampler ZDHC Accredited no.: <u>CFAD10 6817-920</u> ZDHC Composite Sample Code: _____ | | |

| | | | | | |
|---------------------------------------|-------------------------------------------------------------------------------------------|---------------|-----------------|-------------------------|-------|
| Field Data for Wastewater | | | | | |
| Arrival Time: | 12:10 | | Departure Time: | | 19:30 |
| Field Parameters | pH: 7.2 | Temp: 32.5 °C | Color: Reddish | Flow rate: 42.3 (L/min) | |
| Control No. of field equipment | | | | | |
| Factory with effluent treatment plant | <input checked="" type="checkbox"/> Yes | | | | P |
| Sample matrix: | <input type="checkbox"/> Incoming water (if required) | | | | |
| | <input type="checkbox"/> Wastewater before treatment | | | | |
| | <input checked="" type="checkbox"/> Wastewater after treatment - water at discharge point | | | | |
| Sampler container number | 12 | 12 | 12 | 12 | 12 |

| ZDHC Wastewater Sampling Field Testing QA/QC | | | |
|----------------------------------------------|---------------------------------------|--------------|------------|
| Parameter | Laboratory control sample (LCS) Known | LCS Measured | Accuracy % |
| pH | | | |
| Total Chlorine | | | |

| ZDHC Wastewater Sample Collection Field Test Measurements | | | | | | | | | |
|-----------------------------------------------------------|----------------------|-----------------------|------------|------------|------------|------------|------------|------------|-----------------------------------------------------------------------------------|
| Recording time | ID | Sampling Time (Hours) | | | | | | | Average (Report with lab data) |
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |
| Temp (°C): | Wastewater Discharge | 32.5 | 33.2 | 32.5 | 32.6 | 32.8 | 30.8 | 30.9 | |
| | Receiving Water | 28.9 | | | | | | | |
| pH | | 7.2 | 7.3 | 7.2 | 7.3 | 7.3 | 7.4 | 7.2 | |
| Dissolved Oxygen (mg/L): | | 6.80 | 6.10 | 6.20 | 6.50 | 6.50 | 6.50 | 6.20 | |
| Total Chlorine (mg/L): | | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.4 | 0.1 | |
| Persistent Foam (Yes/No): | | NO | NO | NO | NO | NO | NO | NO | |
| Wastewater Flow meter (L/min): | | 42.3 | 43.2 | 45.2 | 46.3 | 46.2 | 40.8 | 43.2 | |
| Alternate measured Flow | Depth (cm) | - | - | - | - | - | - | - | |
| | Velocity (cm/sec) | - | - | - | - | - | - | - | |
| Color (visual estimation): | | L. Reddish | L. Reddish | L. Reddish | L. Reddish | L. Reddish | L. Reddish | L. Reddish | |
| Volume collected, mL | | 143x12 | 143x12 | 143x12 | 143x12 | 143x12 | 143x12 | 143x12 | |
| Total volume collected | | 12012 | | | | | | | Remark: Total volume collected must be greater than total of sample size required |



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet (continued)

| | | |
|--|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| | FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | CPSD-AN-00613-DATA 04 Issue Date: _____ Version No.: 18 Business Line: Analytical |
|--|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|

Analysis Required and Preservation Method

| Tests (ZDHC MRSL Parameters) | Test required (v) | Total of sample size | Type of container | Preservation method (Store sample at 2-8°C) | | |
|---------------------------------------------|----------------------------------------|-------------------------------|---------------------------------------|---------------------------------------------|-----------------------------------------|------------------------------------------------------------------|
| Combined test or individual test (Remark 4) | 1. Phthalate | | Amber Glass, washed with nitric acid. | Without adding acid | | |
| | 2. Chlorobenzenes, Chlorotoluene & PAH | | | | | |
| | 3. SCCPs | | | | | |
| | 4. APS | | | | | |
| 5. APEOs | | 1000 mL total or 1000 mL each | | | | |
| 6. Chlorophenols & Cresols | | 100 mL | | | | |
| 7. Flame retardant | | 100 mL | | | | |
| 8. Dyes | | 500 mL | | | | |
| 9. Glycol | | 10 mL | | | | |
| 10. *Pesticides | | 50 mL | | | | |
| 11. *Nitrosamine | | 1000 mL | | | | |
| 12. Banned Azodyes | | 10 mL | | | | |
| 13. *Free primary aromatic amines | | 2000 mL | | | | |
| 14. Organotin Compounds | | 500 mL | | | | |
| 15. UV absorbers | | 500 mL | | | | |
| 16. BPA | | 100 | | | | |
| 17. Preservatives | | 2 | | | | |
| 18. VOC & Halogenated Solvents (Remark 6) | | 52 | | | | Fill to full container without air gap; acidity to pH 2 with HCl |
| 19. PFCs (Remark 6) | | 10 mL | | | PE, washed with pesticide grade Acetone | Without adding acid |
| | | 2 mL | | | | |

| Tests (Conventional Parameters) | Test required (v) | Total of sample size | Type of container | Preservation method (Store sample at 2-8°C) |
|-----------------------------------------------------------------------|----------------------------------|-------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Combined test or individual test (Remark 4) | 20. Total suspended solids (TSS) | ✓ | Amber Glass, washed with nitric acid. | Without adding acid |
| | 21. Total dissolved solids (TDS) | ✓ | | |
| 22. 5-day Biochemical Oxygen Demand (BOD5) | ✓ | 2000 mL total or 2000 mL each | | |
| 23. Colour | ✓ | 1000 mL | | |
| 24. Heavy Metals except Cr(VI) & Total-P (Remark 6) | ✓ | 100 mL | PE, washed with nitric acid | Acidity to pH 2 with HNO ₃ |
| 25. Cyanide | ✓ | 9 mL | Amber Glass, washed with pesticide grade acetone | Adjust pH 12 with 50% NaOH, add 0.05 ml of 10% Na ₂ S ₂ O ₅ |
| 26. Cr(VI) | ✓ | 500 mL | | Filter by 0.45µm filter in field, fill to full container without air gap; adjust pH to 9.0-9.5 by adding ammonium buffer |
| 27. Chemical oxygen demand (COD) | ✓ | 95 mL | Amber Glass, washed with nitric acid | Acidity to pH 2 with H ₂ SO ₄ |
| 28. Phenols | ✓ | 150 mL | | |
| 29. Oil and Grease & Total Hydrocarbon | ✓ | 500 mL | | |
| 30. *Formaldehyde | ✓ | 1000 mL | | |
| 31. Sulfide (Remark 5) | ✓ | 25 mL | PE, washed with pesticide grade Acetone. | Fill to full container without air gap; acidity to pH 2 with H ₂ SO ₄ |
| 32. E. coli (Remark 6) | ✓ | 50 mL | PE, clean, sterile, non-reactive | Fill to full container without air gap; add 2 drops of 2M zinc acetate, adjust pH to 9 with 6M NaOH |
| 33. Sulfite | ✓ | 125 mL | Amber Glass, washed with pesticide grade acetone | Add 0.1 ml of 10% Na ₂ S ₂ O ₃ keep in dark |
| 34. Total-N | ✓ | 100 mL | | Add 1mL of 2.5% EDTA |
| 35. Ammonium-N | ✓ | 100 mL | | Acidity to pH 2 with H ₂ SO ₄ |
| 36. Adsorbable organically bound halogens (AOX) | ✓ | 500 mL | | Acidity to pH 2 with HNO ₃ |
| 37. Acute aquatic toxicity: Lumines Bacteria, Fish Egg, Daphns; Algae | ✓ | 100 mL | Amber Glass, washed with nitric acid; | |
| 38. Sulphate | ✓ | 1000 mL | | Without adding acid |
| | ✓ | 100 mL | | |





Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet (continued)

| | | | |
|-----------------------------------------------------------------------------------------|---|-----------------------|--|
| FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | | CPSD-AN-00613-DATA 04 | |
| | | Issue Date: | |
| 39 Chloride | ✓ | 100 mL | |
| 40. Others: | 1 | | |
| Observation/ Remark: | | | |

*Remarks:

- 1 Individual sampling can be performed upon request
- 2 The minimum sampling time for 2019 ZDHC guideline is 6 hours with no more than one hour between discrete samples. Sampling time could be adjusted upon request.
- 3 Scope of ZDHC guideline: Parameter 1-9, 12, 14-29, 31-36, 38, 39
 Scope of synthetic leather industry: Parameter 1-9, 12, 14-24, 26-29, 31, 32, 34, 35, 38, 39
 Scope of MMCF: Parameter 5, 18, 20, 22-24, 26-29, 31, 34-37
 Free primary aromatic amine, pesticides, nitrosamine and formaldehyde are not in the scope of ZDHC Guideline, they are listed upon request.
- 4 Refer to CPSD-AN-G00019-STIP01, locations with those CPSD test capability inside TCD matrix can perform the combined test.
- 5 Refer to CPSD-AN-000570-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested.
- 6 Refer to CPSD-AN-00613-MTHD for preparation of field blank for specific parameters.

Recorded by: *Asifur Rahman*
 Full name:

Date: 21.06.23

Comment from factory

Acknowledgement by factory

I hereby confirmed that Bureau Veritas has completed the stated sampling activity at captioned date, time and location. All sample(s) is/are collected in designated container(s) and without any observation in leakage. Sample(s) collected by Bureau Veritas is/are stored in portable freezer / fridge that is maintained in 1-6°C

Signature of Factory Representative: *Team*

Md. Tozam Hosen
 Full Name:

Date: 21.06.23





Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet (continued)

| | | |
|--|-----------------------------------------------------------------------------------------|------------------------------|
| | FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | CPSD-AN-00613-DATA 04 |
| | Issue Date: | |
| | Version No.: 18 | |
| | | Business Line: Analytical |

| Field Data for Sludge | | | | | | |
|-----------------------------------------------------|-------|----------|-----------------------------------------------------------------------------------|-------|-----|---|
| Arrival Time: | 12.10 | | Departure Time: | 19.30 | | |
| Field Parameters | pH: | Temp: °C | Flow rate (volume/time) / sludge flux (weight/time): | | | |
| Control No. of field equipment | C8147 | | Rule | | MUR | |
| Sampling Time (Hours) | 0 | 1 | 2 | 3 | 4 | 5 |
| Recording time | ID | | | | | |
| | Time | 1.30 | | | | |
| pH: | | | | | | |
| Temp (°C): | | | | | | |
| Flow rate (volume/time) / sludge flux (weight/time) | | | | | | |
| Volume collected, mL | 38155 | | | | | |
| Total volume collected | 23650 | | Remark: Total volume collected must be greater than total of sample size required | | | |

| Analysis Required and Preservation Method | | | | | | |
|-------------------------------------------------|------------------------------------------|-----------------------|------------------------------------------------|--------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------|
| Factory with effluent treatment plant | Yes | | No | | | |
| Sample matrix | Sludge in clarifier (sedimentation tank) | | | | | |
| Sampler container number | | | | | | |
| Recording time | | | | | | |
| Tests (MRSL Parameter) | Test required (v) | Total of sample size | Type of container | Preservation method (Store sample at 2-8°C) | | |
| Combined test or Individual test (Remark 3) | 1. Phthalate | 10g total or 10g each | Amber Glass, washed with nitric acid | Add 0.2 mL of 10% Na ₂ S ₂ O ₃ (0.008% VW) | | |
| | 2. Chlorobenzenes, Chlorotoluene & PAHs | | | | | |
| | 3. SCCPs | | | | | |
| | 4. APS | | | | | |
| 5. APEOs | ✓ | 20 g | | | | |
| 6. Flame retardant | | 10 g | | | | |
| 7. Dyes | | 10 g | | | | |
| 8. Glycols | | 100 g | | | | |
| 9. Pesticides | | 20g | | | | |
| 10. Banned Azodyes | | 20 g | | | | |
| 11. Free primary aromatic amines | | 10 g | | | | |
| 12. Chlorophenols & Cresols | | 20 g | | | | Acidify to -pH 2 with H ₂ SO ₄ . Add 0.02 mL of 10% Na ₂ S ₂ O ₃ (0.008% W/V) |
| 13. Organotin Compounds | | 10 g | | | | Fill to full container without any air gap and acid add |
| 14. VOC & Halogenated Solvents (Remark 5) | | 10 g | | | | Fill to full bottle without any air gap. Acidify to -pH 2 with HCl |
| 15. PFCs (Remark 5) | | 10 g | PE, wash with pesticide grade acetone | Add 0.02 mL of 10% Na ₂ S ₂ O ₃ (0.008% W/V) | | |
| Tests (Conventional Parameters) | Test required (v) | Total of sample size | Type of container | Preservation method (Store sample at 2-8°C) | | |
| 16. Heavy Metals except Cr(VI) (Remark 5) | ✓ | 0.2 g | PE, wash with nitric acid | Acidify to -pH 2 with HNO ₃ | | |
| 17. Cr(VI) | ✓ | 2.5 g | | | | |
| 18. Adsorbable organically bound halogens (AOX) | | 1 g | Amber Glass, wash with nitric acid | Fill to full container without any air gap and acid add | | |
| 19. Extractable organohalides (EOX) | | 20 g | | | | |
| 20. Total organic carbon (TOC) | | 20 g | | | | |
| 21. Cyanide | ✓ | 50 g | Amber Glass, wash with pesticide grade acetone | Adjust pH to 12-13 with 50% NaOH | | |
| 22. Faecal Coliform | ✓ | 20 g | PE, clean, sterile, non-reactive | Add 0.1 ml of 10% Na ₂ S ₂ O ₃ , keep in dark | | |



Test Report: (6823)173-0217



Report Date: July 10, 2023

Appendix C - On-site Field Data Record Sheet (continued)

| FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING) | | | | CPSD-AN-00813-DATA 04 | |
|---------------------------------------------------------------------------------|---|------|------------------------------------|----------------------------|--|
| | | | | Issue Date: | |
| | | | | Version No.: 18 | |
| | | | | Business Line: Analytical | |
| 23. % Solids | ✓ | 20 g | Amber Glass, wash with nitric acid | Acidify to -pH 2 with HNO3 | |
| 24. Paint Filter Test | ✓ | 20 g | | | |
| 25. Others | 1 | | | | |
| Observation/Remark: | | | | | |

- *Remarks:**
- Individual sampling can be performed upon request
 - The minimum sampling time for 2019 ZDHC guideline is 8 hours with no more than one hour between discrete samples. Sampling time could be adjusted upon request.
 - Scope of ZDHC guideline: Parameter 1, 2, 4, 5, 16-17, 21-24
 Scope of synthetic leather industry: Parameter 1-8, 10, 12-17
 Scope of MMCF: Parameter 16, 18-20
 Free primary aromatic amine and pesticides are not in the scope of ZDHC Guideline, they are tested upon request.
 - Refer to CPSD-AN-G00019-STIP01, locations with those CPSD test capability inside TCO matrix can perform the combined test
 - Refer to CPSD-AN-00813-MTHD for preparation of field blank for specific parameters.

ZDHC Wastewater Sampling - Facility Confirmation

The Wastewater samples have been collected under the facilities' normal production scale and wastewater flow rate. The sampler listed below was on-site and collected the samples.

Facility Name:

Facility Representative Name:

Facility Representative Signature and stamp:

Shentex (Pvt) Ltd.
Md. Tozom Hosen



Sampler's Name:

Sampler's ZDHC Accreditation:

Sampler's Signature:

Asthan Rahman

CPSD 5817980



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods |
|----------------------------------------------------------------------------|------------|--------|------------------------------------------------------------------|------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Wastewater | Sludge | | Wastewater | Sludge | |
| 1A) AP and APEOs: including all isomers | | | | | | |
| Nonylphenol ethoxylates (NPEO) | µg/L | mg/kg | 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0 | 5 | 0.4 | NP/OP: ISO 18857-2 (modified dichloromethane extraction) or ASTM D7065 (GC-MS or LC-MS(-MS)), OPEO/NPEO (n>2): ASTM D7742 ISO 18857-2 |
| Nonylphenol (NP), mixed isomers | | | 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3 | | | |
| Octylphenol ethoxylates (OPEO) | | | 9002-93-1, 9036-19-5, 68987-90-6 | | | |
| Octylphenol (OP), mixed isomers | | | 140-66-9, 1806-26-4, 27193-28-8 | | | |
| 1B) Anti-Microbials & Biocides | | | | | | |
| o-Phenylphenol (+salts) | µg/L | - | 90-43-7 | 100 | - | USEPA 8270E Solvent extraction, derivatisation with KOH, acetic anhydride followed by GC-MS BS EN 12673-1999 |
| Triclosan | | | 3380-34-5 | | | |
| Permethrin | | | Multiple | 500 | | |
| 1C) Chlorinated Paraffins | | | | | | |
| Medium-chain chlorinated paraffins (MCCPs) (C14-C17) | µg/L | - | 85535-85-9 | 500 | - | EPA 3510 and analyzed by ISO18219-2:2021 Method for MCCP with GC-MS(NCI) or LC-MS/MS EPA 3510 and analyzed by ISO18219-1:2021, ISO 12010:2019 Methods for SCCP with GC-MS(NCI) or LC-MS/MS |
| Short-chain chlorinated paraffins (SCCPs) (C10-C13) | | | 85535-84-8 | 25 | | |
| 1D) Chlorobenzenes and Chlorotoluenes | | | | | | |
| 1,2-dichlorobenzene | µg/L | - | 95-50-1 | 0.2 | - | USEPA 8260D, 8270E, Purge and Trap, Head Space, Dichloromethane extraction followed by GC-MS |
| Other isomers of mono-, di-, tri-, tetra-, penta-, and hexa- chlorobenzene | | | Multiple | | | |
| Other isomers of mono-, di-, tri-, tetra-, and penta- chlorotoluene | | | | mg/kg | | |
| 1E) Chlorophenols | | | | | | |
| 2-chlorophenol | µg/L | - | 95-57-8 | 0.5 | - | USEPA 8270E Solvent extraction, derivatisation with KOH, acetic anhydride followed by GC-MS, BS EN 12673-1999 the procedure of solvent extraction and derivatization are included |
| 3-chlorophenol | | | 108-43-0 | | | |
| 4-chlorophenol | | | 106-48-9 | | | |
| 2,3-dichlorophenol | | | 576-24-9 | | | |
| 2,4-dichlorophenol | | | 120-83-2 | | | |
| 2,5-dichlorophenol | | | 583-78-8 | | | |
| 2,6-dichlorophenol | | | 87-65-0 | | | |
| 3,4-dichlorophenol | | | 95-77-2 | | | |
| 3,5-dichlorophenol | | | 591-35-5 | | | |
| 2,3,4-trichlorophenol | | | 15950-66-0 | | | |
| 2,3,5-trichlorophenol | | | 933-78-8 | | | |
| 2,3,6-trichlorophenol | | | 933-75-5 | | | |
| 2,4,5-trichlorophenol | | | 95-95-4 | | | |
| 2,4,6-trichlorophenol | | | 88-06-2 | | | |
| 3,4,5-trichlorophenol | | | 609-19-8 | | | |
| 2,3,5,6-tetrachlorophenol | | | 935-95-5 | | | |
| 2,3,4,6-tetrachlorophenol | | | 58-90-2 | | | |
| 2,3,4,5-tetrachlorophenol | | | 4901-51-3 | | | |
| Pentachlorophenol (PCP) | | | 87-86-5 | | | |
| 1F) Dimethyl Formamide (DMFa) | | | | | | |
| Dimethyl formamide; N,N-dimethylformamide (DMFa) ^a | µg/L | - | 68-12-2 | 1000 | - | EPA 8015, EPA 8270E |

a = Report only for mock leather



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods |
|------------------------------------------------------|------------|--------|---------------|------------|--------|--------------------------|
| | Wastewater | Sludge | | Wastewater | Sludge | |
| 1G) Dyes - Carcinogenic or Equivalent Concern | | | | | | |
| Basic Violet 3 with >0.1% of Michler's Ketone | µg/L | - | 548-62-9 | 500 | - | Liquid extraction, LC-MS |
| C.I. Acid Red 26 | | | 3761-53-3 | | | |
| C.I. Acid Violet 49 | | | 1694-09-3 | | | |
| C.I. Basic Blue 26 (with Michler's Ketone > 0.1%) | | | 2580-56-5 | | | |
| C.I. Basic Green 4 (Malachite Green Chloride) | | | 569-64-2 | | | |
| C.I. Basic Green 4 (Malachite Green Oxalate) | | | 2437-29-8 | | | |
| C.I. Basic Green 4 (Malachite Green) | | | 10309-95-2 | | | |
| C.I. Basic Red 9 | | | 569-61-9 | | | |
| C.I. Basic Violet 14 | | | 632-99-5 | | | |
| C.I. Direct Black 38 | | | 1937-37-7 | | | |
| C.I. Direct Blue 6 | | | 2602-46-2 | | | |
| C.I. Direct Red 28 | | | 573-58-0 | | | |
| C.I. Disperse Blue 1 | | | 2475-45-8 | | | |
| C.I. Disperse Blue 3 | | | 2475-46-9 | | | |
| Disperse Orange 11 | | | 82-28-0 | | | |
| 1H) Dyes - Disperse (Allergenic) | | | | | | |
| Disperse Blue 102 | µg/L | - | 12222-97-8 | 50 | - | Liquid extraction, LC-MS |
| Disperse Blue 106 | | | 12223-01-7 | | | |
| Disperse Blue 124 | | | 61951-51-7 | | | |
| Disperse Blue 26 | | | 3860-63-7 | | | |
| Disperse Blue 35 | | | 12222-75-2 | | | |
| | | | 56524-77-7 | | | |
| Disperse Blue 7 | | | 3179-90-6 | | | |
| Disperse Brown 1 | | | 23355-64-8 | | | |
| Disperse Orange 1 | | | 2581-69-3 | | | |
| Disperse Orange 3 | | | 730-40-5 | | | |
| Disperse Orange 37/59/76 | | | 13301-61-6 | | | |
| Disperse Red 1 | | | 2872-52-8 | | | |
| Disperse Red 11 | | | 2872-48-2 | | | |
| Disperse Red 17 | | | 3179-89-3 | | | |
| Disperse Yellow 1 | | | 119-15-3 | | | |
| Disperse Yellow 3 | | | 2832-40-8 | | | |
| Disperse Yellow 39 | | | 12236-29-2 | | | |
| Disperse Yellow 49 | | | 54824-37-2 | | | |
| Disperse Yellow 9 | 6373-73-5 | | | | | |
| 1I) Dyes - Navy Blue Colourant | | | | | | |
| Component 1: C39H23Cl-CrN7O12S 2Na | µg/L | - | 118685-33-9 | 500 | - | Liquid extraction, LC-MS |
| Component 2: C46H-30CrN10O20S2 3Na | | | Not Allocated | | | |



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods | | | |
|------------------------------------------------------|----------------------|------------|------------------------|------------|--------|--------------------------------------------------------------------------------------------------|-----|---|-----------------------------------|
| | Wastewater | Sludge | | Wastewater | Sludge | | | | |
| 1J) Flame Retardants | | | | | | | | | |
| 2,2-bis(bromomethyl)-1,3-propanediol (BBMD) | µg/L | - | 3296-90-0 | 25 | - | USEPA 8270E, ISO 22032, USEPA 527 and USEPA 8321B Dichloromethane extraction GC-MS or LC-MS(-MS) | | | |
| Bis(2,3-dibromopropyl) phosphate (BIS) | | | 5412-25-9 | | | | | | |
| Decabromodiphenyl ether (DecaBDE) | | | 1163-19-5 | | | | | | |
| Hexabromocyclodecane (HBCDD) | | | 3194-55-6 | | | | | | |
| Octabromodiphenyl ether (OctaBDE) | | | 32536-52-0 | | | | | | |
| Pentabromodiphenyl ether (PentaBDE) | | | 32534-81-9 | | | | | | |
| Polybromobiphenyls (PBB) | | | 59536-65-1 | | | | | | |
| Tetrabromobisphenol A (TBBPA) | | | 79-94-7 | | | | | | |
| Tris(2-chloro-1-methylethyl)phosphate (TCPP) | | | 13674-84-5 | | | | | | |
| Tris(1-aziridinyl)phosphine oxide (TEPA) | | | 545-55-1 | | | | | | |
| Tris(1,3-dichloro-isopropyl)phosphate (TDCP) | | | 13674-87-8 | | | | | | |
| Tris(2-chloroethyl)phosphate (TCEP) | | | 115-96-8 | | | | | | |
| Tris(2,3-dibromopropyl)-phosphate (TRIS) | | | 126-72-7 | | | | | | |
| Decabromobiphenyl (DecaBB) | | | 13654-09-6 | | | | | | |
| Dibromobiphenyls (DiBB) | | | Multiple | | | | | | |
| Octabromobiphenyls (OctaBB) | | | Multiple | | | | | | |
| Dibromopropylether | | | 21850-44-2 | | | | | | |
| Heptabromodiphenyl ether (HeptaBDE) | | | 68928-80-3 | | | | | | |
| Hexabromodiphenyl ether (HexaBDE) | | | 36483-60-0 | | | | | | |
| Monobromobiphenyls (MonoBB) | | | Multiple | | | | | | |
| Monobromodiphenylethers (MonoBDEs) | | | Multiple | | | | | | |
| Nonabromobiphenyls (NonaBB) | | | Multiple | | | | | | |
| Nonabromodiphenyl ether (NonaBDE) | | | 63936-56-1 | | | | | | |
| Tetrabromodiphenyl ether (TetraBDE) | | | 40088-47-9 | | | | | | |
| Tribromodiphenylethers (TriBDEs) | | | Multiple | | | | | | |
| Boric acid ^b | | | 10043-35-3, 11113-50-1 | | | | 100 | - | Determined as total boron via ICP |
| Diboron trioxide ^b | | | 1303-86-2 | | | | | | |
| Disodium octaborate ^b | 12008-41-2 | | | | | | | | |
| Disodium tetraborate anhydrous ^b | 1303-96-4, 1330-43-4 | | | | | | | | |
| Tetraboron disodium heptaoxide, hydrate ^b | | 12267-73-1 | | | | | | | |
| 1K) Glycols / Glycol Ethers | | | | | | | | | |
| 2-ethoxyethanol | µg/L | - | 110-80-5 | 50 | - | USEPA 8270E Liquid extraction, LC-MS GC-MS | | | |
| 2-ethoxyethyl acetate | | | 111-15-9 | | | | | | |
| 2-methoxyethanol | | | 109-86-4 | | | | | | |
| 2-methoxyethylacetate | | | 110-49-6 | | | | | | |
| 2-methoxypropylacetate | | | 70657-70-4 | | | | | | |
| Bis(2-methoxyethyl)-ether | | | 111-96-6 | | | | | | |
| Ethylene glycol dimethyl ether | | | 110-71-4 | | | | | | |
| Triethylene glycol dimethyl ether | | | 112-49-2 | | | | | | |
| 1L) Halogenated Solvents | | | | | | | | | |
| 1,2-dichloroethane | µg/L | - | 107-06-2 | 1 | - | USEPA 8260D Headspace GC-MS or Purge and trap GC-MS | | | |
| Methylene chloride | | | 75-09-2 | | | | | | |
| Tetrachloroethylene | | | 127-18-4 | | | | | | |
| Trichloroethylene | | | 79-01-6 | | | | | | |

b = Limit refer to elemental boron, not the salt.



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods |
|----------------------------------------------------------------------------------------|------------|--------|------------------------|------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| | Wastewater | Sludge | | Wastewater | Sludge | |
| 1M) Organotin Compounds | | | | | | |
| Dipropyltin compounds (DPT) | µg/L | - | Multiple | 0.01 | - | ISO 17353 Derivatisation with NaB (C2H5)4 GC-MS |
| Mono-, di- and tri-butyltin derivatives | | | | | | |
| Mono-, di- and tri-methyltin derivatives | | | | | | |
| Mono-, di- and tri-octyltin derivatives | | | | | | |
| Mono-, di- and tri-phenyltin derivatives | | | | | | |
| Tetraethyltin compounds (TeET) | | | | | | |
| Tripolytin Compounds (TPT) | | | | | | |
| Tetraoctyltin compounds (TeOT) | | | | | | |
| Tricyclohexyltin (TCyHT) | | | | | | |
| Tetraethyltin Compounds (TeET) | | | | | | |
| 1N) Other/Miscellaneous Chemicals | | | | | | |
| AEEA [2-(2-aminoethylamino)ethanol] | µg/L | - | 111-41-1 | 500 | - | Liquid extraction, LC-MSMS |
| Bisphenol A | | | 80-05-7 | 10 | | |
| Thiourea | | | 62-56-6 | 50 | | Liquid extraction, LC-MS |
| Quinoline | | | 91-22-5 | 50 | | |
| Borate, zinc salt ^c | | | 12767-90-7 | 100 | | Determine as total boron and total zinc via ICP |
| Silica (Used in sand blasting) ^d | | | 14464-46-1 | NA | | Not a ZDHC Wastewater parameter |
| 1O) Perfluorinated and Polyfluorinated Chemicals (PFCs) | | | | | | |
| Perfluorooctane sulfonate (PFOS) and related substances, Perfluorooctanoic acid (PFOA) | µg/L | - | Multiple | 0.01 | - | PFCs: EPA 537:2020 FTOH: BS EN 12673-1999, EPA 8270 PFCs: LC-MSMS FTOH: GC-MS Derivatisation with acetic anhydride followed by GC-MS |
| Perfluorooctanoic acid (PFOA) related substances | | | | 1 | | |
| 1P) Phthalates - including all other esters of ortho-phthalic acid | | | | | | |
| 1,2-benzenedicarboxylic acid, di-C6-8 branched and linear alkyl esters, C7-rich (DIHP) | µg/L | - | 71888-89-6, 84777-06-0 | 10 | - | USEPA 8270E, ISO 18856 Dichloromethane extraction GC-MS |
| 1,2-benzenedicarboxylic acid, di-C7-11 branched and linear alkyl esters (DHNUP) | | | 68515-42-4, 68515-50-4 | | | |
| Bis(2-methoxyethyl)phthalate (DMEP) | | | 117-82-8 | | | |
| Butyl benzyl phthalate (BBP) | | | 85-68-7 | | | |
| Di-cyclohexyl phthalate (DCHP) | | | 84-61-7 | | | |
| Di-iso-decyl phthalate (DIDP) | | | 26761-40-0 | | | |
| Di-iso-octyl phthalate (DIOP) | | | 27554-26-3 | | | |
| Di-iso-butyl phthalate (DIBP) | | | 84-69-5 | | | |
| Di-iso-nonyl phthalate (DINP) | | | 28553-12-0 | | | |
| Di-n-hexyl phthalate (DnHP) | | | 84-75-3 | | | |
| Di-n-octyl phthalate (DNOP) | | | 117-84-0 | | | |
| Di-n-pentylphthalates | | | 131-18-0 | | | |
| Di-n-propyl phthalate (DPRP) | | | 131-16-8 | | | |
| Di(ethylhexyl) phthalate (DEHP) | | | 117-81-7 | | | |
| Dibutyl phthalate (DBP) | | | 84-74-2 | | | |
| Diethyl phthalate (DEP) | | | 84-66-2 | | | |
| Diisopentylphthalates | | | 605-50-5 | | | |
| Dinonyl phthalate (DNP) | | | 84-76-4 | | | |

c = Limit refers to elemental boron and/or zinc, not the salt.

d = Not required to test this parameter as this is related to sand blasting



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods | | | | |
|-----------------------------------------------------------------------|------------|--------|------------|------------|--------|--------------------------------------------------------------------|--|--|--|--------------------------------------------------------------------------------------------------------|
| | Wastewater | Sludge | | Wastewater | Sludge | | | | | |
| 1Q) Polycyclic Aromatic Hydrocarbons (PAHs) | | | | | | | | | | |
| Acenaphthene | µg/L | mg/kg | 83-32-9 | 1 | 0.2 | USEPA 8270E DIN 38407-39 Solvent extraction GC-MS | | | | |
| Acenaphthylene | | | 208-96-8 | | | | | | | |
| Anthracene | | | 120-12-7 | | | | | | | |
| Benzo[a]anthracene | | | 56-55-3 | | | | | | | |
| Benzo[a]pyrene (BaP) | | | 50-32-8 | | | | | | | |
| Benzo[b]fluoranthene | | | 205-99-2 | | | | | | | |
| Benzo[e]pyrene | | | 192-97-2 | | | | | | | |
| Benzo[ghi]perylene | | | 191-24-2 | | | | | | | |
| Benzo[j]fluoranthene | | | 205-82-3 | | | | | | | |
| Benzo[k]fluoranthene | | | 207-08-9 | | | | | | | |
| Chrysene | | | 218-01-9 | | | | | | | |
| Dibenz[a,h]anthracene | | | 53-70-3 | | | | | | | |
| Fluoranthene | | | 206-44-0 | | | | | | | |
| Fluorene | | | 86-73-7 | | | | | | | |
| Indeno[1,2,3-cd]pyrene | | | 193-39-5 | | | | | | | |
| Naphthalene | | | 91-20-3 | | | | | | | |
| Phenanthrene | | | 85-01-8 | | | | | | | |
| Pyrene | 129-00-0 | | | | | | | | | |
| 1R) Restricted Aromatic Amines (Cleavable from Azo-colourants) | | | | | | | | | | |
| 2-naphthylamine | µg/L | - | 91-59-8 | 0.1 | - | Reduction step with sodium dithionite, solvent extraction EPA 8270 | | | | |
| 2-naphthylammoniumacetate | | | 553-00-4 | | | | | | | |
| 2,4-xylidine | | | 95-68-1 | | | | | | | |
| 2,4,5-trimethylaniline | | | 137-17-7 | | | | | | | |
| 2,4,5-trimethylaniline hydrochloride | | | 21436-97-5 | | | | | | | |
| 2,6-xylidine | | | 87-62-7 | | | | | | | |
| 3,3'-dichlorobenzidine | | | 91-94-1 | | | | | | | |
| 3,3-dimethoxybenzidine | | | 119-90-4 | | | | | | | |
| 4-aminoazobenzene | | | 60-09-3 | | | | | | | |
| 4-aminodiphenyl | | | 92-67-1 | | | | | | | |
| 4-chloro-o-toluidine | | | 95-69-2 | | | | | | | |
| 4-chloro-o-toluidinium chloride | | | 3165-93-3 | | | | | | | |
| 4-chloroaniline | | | 106-47-8 | | | | | | | |
| 4-methoxy-m-phenylene diammonium sulphate; | | | 39156-41-7 | | | | | | | |
| 2,4-diaminoanisole sulphate | | | 615-05-4 | | | | | | | |
| 4-methoxy-m-phenylenediamine | | | 95-80-7 | | | | | | | |
| 4-methyl-m-phenylenediamine | | | 101-14-4 | | | | | | | |
| 4,4-methylene-bis-(2-chloro-aniline) | | | 838-88-0 | | | | | | | |
| 4,4-methylenedi-o-toluidine | | | 101-77-9 | | | | | | | |
| 4,4-methylenedianiline | | | 101-80-4 | | | | | | | |
| 4,4-oxydianiline | | | 139-65-1 | | | | | | | |
| 5-nitro-o-toluidine | | | 99-55-8 | | | | | | | |
| 6-methoxy-m-toluidine | | | 120-71-8 | | | | | | | |
| Benzidine | | | 92-87-5 | | | | | | | |
| o-aminoazotoluene | | | 97-56-3 | | | | | | | |
| o-anisidine | | | 90-04-0 | | | | | | | |
| o-toluidine | | | 95-53-4 | | | | | | | |
| | | | | | | | | | | Reduction step with sodium dithionite, solvent extraction EPA 8270E and ISO 14362-1 GC/MS and LC/MS/MS |



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods |
|-----------------------------------------------------------------------|------------|--------|------------|------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Wastewater | Sludge | | Wastewater | Sludge | |
| 1S) UV Absorbers | | | | | | |
| 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350) | µg/L | - | 36437-37-3 | 100 | - | USEPA 8270 ISO 22032, USEPA 527 and USEPA 8321B. Dichloromethane extraction GC-MS or LC-MS(-MS) |
| 2-(2H-benzotriazol-2-yl)-4,6- ditertpentylphenol (UV-328) | | | 25973-55-1 | | | |
| 2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320) | | | 3846-71-7 | | | |
| 2,4-Di-tert-butyl-6-(5- chlorobenzotriazole-2-yl) phenol (UV-327) | | | 3864-99-1 | | | |
| 1T) Volatile Organic Compounds (VOC) | | | | | | |
| Benzene | µg/L | - | 71-43-2 | 1 | - | ISO 11423-1 Headspace or Purge and trap GC-MS USEPA 8260D Add ISO 20595 Static headspace for ISO 11423-1 Headspace or Purge and trap GC-MS EPA 8270 BS EN 12673-1999 ISO 11423-1 Headspace or Purge and trap GC-MS USEPA 8260D HJ 1067 or EPA 8260D or ISO 11423-1 |
| m-cresol | | | 108-39-4 | | | |
| o-cresol | | | 95-48-7 | | | |
| p-cresol | | | 106-44-5 | | | |
| Xylene | | | 1330-20-7 | | | |
| Toluene ^a | | | 108-88-3 | | | |

a = Report only for mock leather



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods |
|--------------------------------------------------------------------|-----------------------|--------|------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Wastewater & Leachate | Sludge | | Wastewater | Sludge | |
| Heavy Metals | | | | | | |
| Chromium (VI) | mg/L | mg/kg | 18540-29-9 | 0.001 | 20 | With reference to ISO 18412 / USEPA 218.6 |
| Antimony | | | 7440-36-0 | 0.01 | 5 | With reference to EPA 3015A, 6020A, 200.8, 6020B, 3051A and ISO 17294-2 and analyzed by ICP-MS With reference to EPA 1311 and HJ/T 300 for leachate |
| Barium | | | 7440-39-3 | 1 | 200 | |
| Selenium | | | 7782-49-2 | 1 | 5 | |
| Tin | | | 7440-31-5 | 1 | - | |
| Arsenic | | | 7440-38-2 | 0.005 | 5 | |
| Total Chromium | | | 7440-47-3 | 0.05 | 50 | |
| Cobalt | | | 7440-48-4 | 0.01 | 400 | |
| Cadmium | | | 7440-43-9 | 0.01 | 1 | |
| Copper | | | 7440-50-8 | 0.25 | 50 | |
| Lead | | | 7439-92-1 | 0.01 | 5 | |
| Nickel | | | 7440-02-0 | 0.05 | 20 | |
| Silver | | | 7440-22-4 | 0.005 | 50 | |
| Zinc | | | 7440-66-6 | 0.5 | 400 | |
| Mercury | | | 7439-97-6 | 0.001 | 1 | |
| Conventional | | | | | | |
| pH | pH | pH | | 6 - 9 | | With reference to ISO 10523, EPA 150.2, APHA 4500-H+ |
| Temperature difference | °C | | | - | | USEPA 170.1 or GB/T 13195 |
| E.coli | MPN/100-ml | | | 126 | | APHA 23rd Edition 2017: 9221 G |
| Colour | m ⁻¹ | | | 2;1;1 | | ISO 7887 (Method A and B) |
| Persistent Foam | - | | | - | | - |
| Wastewater Flowrate | m ³ /day | | | - | | - |
| Ammonium-Nitrogen | mg/L | | | 0.5 | | ISO 11732, ISO 7150, USEPA 350.1, APHA 4500 NH ² -N, HJ 535 or HJ 536 |
| AOX | mg/L | | | 0.1 | | ISO 9562, EN ISO 9563, USEPA 1650, HJ.T 83-2001 |
| Biochemical Oxygen Demand 5-days concentration (BOD ₅) | mg/L | | | 8 | | ISO 5815-1 & -2, EN1899-1, USEPA 405.1, APHA 5210B or HJ 505 |
| Chemical Oxygen Demand (COD) | mg/L | | | 40 | | ISO 6060, USEPA 410.4, APHA 5220D or GB/T 11914 |
| Dissolved Oxygen (DO) | mg/L | | | - | | ISO 5814, EPA 360.1 or HJ 506 |
| Oil & Grease | mg/L | | | 0.5 | | ISO 9377-2, USEPA 1664 or HJ 637 |
| Total Phenols / Phenol Index | mg/L | | | 0.001 | | ISO 14402, APHA 5530B, C, D or HJ 503 |
| Total Chlorine | mg/L | | | 0.1 | | ISO 7393-2, EPA 330.5 or HJ 586 |
| Total Dissolved Solids (TDS) | mg/L | | | 5 | | APHA 2540C, GB/T 5750.4 |
| Total Nitrogen | mg/L | | | 5 | | ISO 5663, ISO 29411, USEPA 351.2, APHA 4500P-J, APHA 4500N-C/ HJ 636 or GB 11891 |
| Total Phosphorus | mg/L | | | 0.1 | | ISO 11885, ISO 6878, USEPA 365.4, APHA 4500P-J or GB/T 11893 |
| Total Suspended Solids (TSS) | mg/L | | | 5 | | ISO 11923, USEPA 160.2, APHA 2540D or GB/T 11901 |
| % Solids | - | % | | - | | USEPA 160.3, HJ 613 |
| Paint Filter Test | - | - | | - | | EPA SW-846 or EPA 9095B |
| Fecal Coliform | - | MPN/g | | - | | EPA Method 1681 |



Test Report: (6823)173-0217

Report Date: July 10, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

| Test Parameters | Unit | | CAS No. | LOQ | | Test methods |
|-----------------|-----------------------|--------|---------|------------|--------|-----------------------------------------------------------------------------------|
| | Wastewater & Leachate | Sludge | | Wastewater | Sludge | |
| Anions | | | | | | |
| Chloride | mg/L | - | - | - | - | ISO 10304-1, ISO 15923-1, USEPA 300, HJ 84-2016, IS 3025 (part 32) |
| Cyanide, total | | mg/kg | | 0.05 | 20 | ISO 6703-1 & 2, ISO 14403-1 & 2, USEPA 335.2, APAH 4500-CN or HJ 484 |
| Sulfate | | - | | - | - | ISO 10304-1, ISO 15923-1, USEPA 300, HJ 84-2016, IS 3025 (part 24) |
| Sulfide | | - | | 0.01 | - | ISO 10530, SM 4500-S2-D, E, G or I, GB/T 16489 or IS 3025 (part 29), HJ 1226-2021 |
| Sulfite | | - | | 0.2 | - | ISO 10304-3, SM 4500-SO32-C or HJ 84-2016 |

Remark-1: The report [(6823)173-0217] is sub-contracted to India (Testtex India Laboratories Pvt. Ltd.) for AOX & T-Nitrogen test.

Remark-2: The report [(6823)173-0217] is sub-contracted to Sri Lanka (BVCPS Lanka PVT. Ltd.) for E. coli & Fecal Coliform tests.

END OF REPORT